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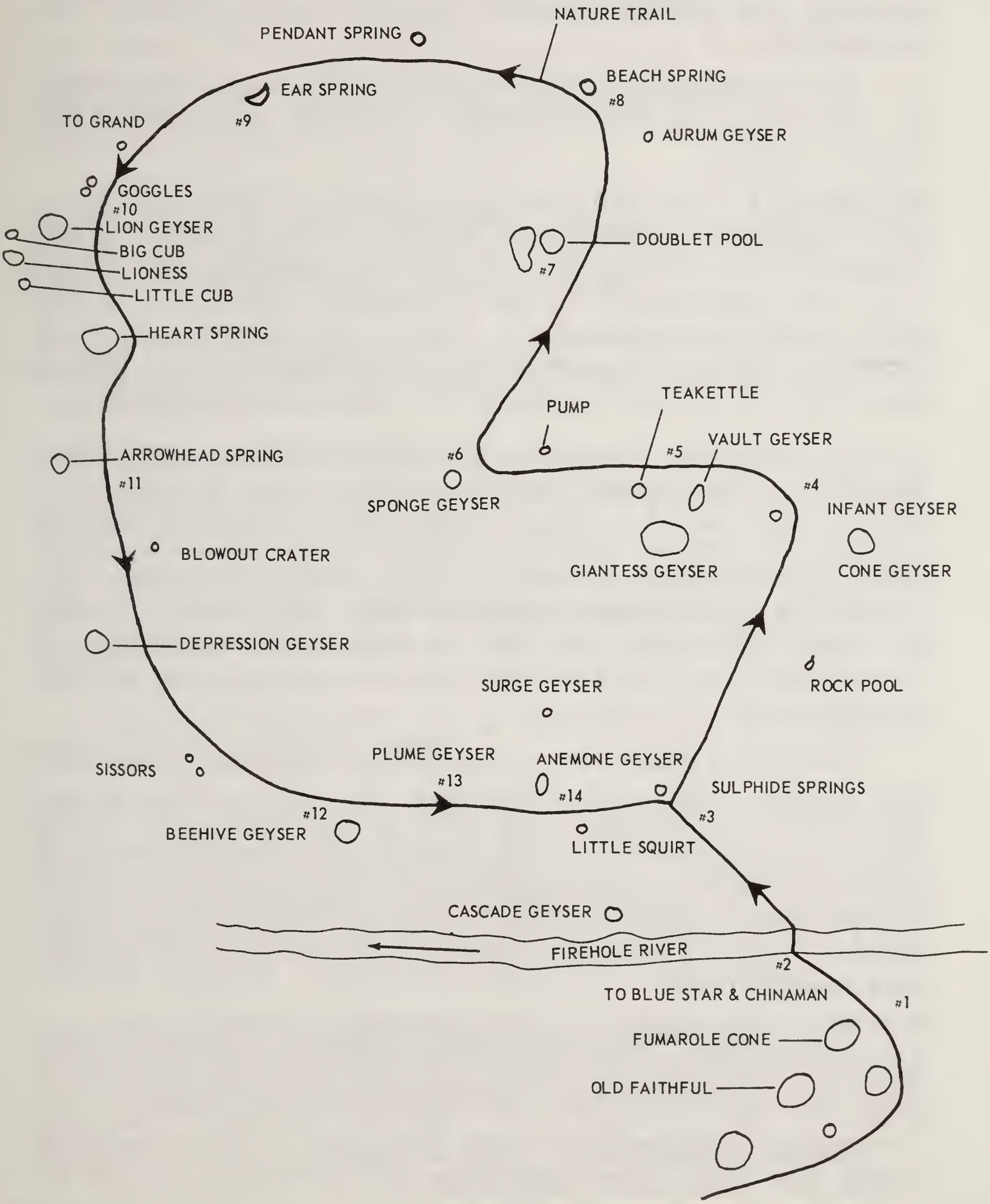
U. S. DEPARTMENT OF THE INTERIOR
National Park Service

Geyser Hill Self-Guiding Nature Trail
Yellowstone National Park



The sketch shows the area covered. The total distance is about one mile.

One of the main objectives of the National Park Service is to preserve the beauty and uniqueness of the hot springs for you and those who follow. This ideal can be realized only to the extent that Park visitors cooperate by refraining from all experimentation or acts of vandalism.

STAY ON THE BOARDWALKS. THEY ARE A MEANS OF PROTECTION TO YOU AND THE FORMATIONS.

For a discussion of Old Faithful Geyser see the pamphlet, **The Story of Old Faithful.** It can be obtained at the Visitor Center.

STATION 1—The Old Faithful group of mounds. There are 9 mounds in this group. Three are comparable to Old Faithful's in size. These mounds, not excepting Old Faithful's, are monuments to or represent some type of hot spring activity now extinct, due to the conduits or pipes which lead from the source of the thermal energy having been filled in by slowly depositing mineral (geyserite).

As judged by the degree of weathering the large mound directly in front would seem to have been extinct for a longer time than any other in this group. Since its well or opening was sealed, numerous steam vents, fumaroles, have developed on this side of the mound. These fumaroles represent the initial development in what will probably result in a new spring at this site. It might be a successor to Old Faithful, as Old Faithful has succeeded earlier activity in this group.

Numerous gases are exhaled from the steam vents and hot springs. They are essentially the same gases as are given off by volcanos. Over 99% of the gas given off by the hot springs is steam. The gas whose odor is quite pronounced is hydrogen sulphide (rotten egg gas). The ratio of this gas to others is only about 1 to 3000. There is no sulphur in Old Faithful's water, or the water of other geysers in this basin.

The information in this leaflet applies to features found along the path to the right. The walk to the left goes to Blue Star and Chinaman Springs and Castle Geyser.

HELP PRESERVE THE BEAUTY AND UNIQUENESS OF THE HOT SPRINGS.

STATION 2—The Firehole River drains the geyser basins which lie between here and Madison Junction. At Madison Junction it unites with the Gibbon to form the Madison River. Madison, Gallatin and Jefferson Rivers meet at Three Forks, Montana, to make the Missouri.

The water coming down the embankment below the bridge is from Old Faithful. Its destination is the Gulf of Mexico.

The Gentian Trail is a self-guiding nature trail.

STATION 3—Keep to the right. The odorous pools at the junction of the walks are called Sulphide Springs.

The outcropping rock on the hillside above the walk is rhyolite. In recent geologic past it poured into Yellowstone's central area as a lava. The source of this lava, as well as the heat for present thermal springs, is presumed to be the same.

STATION 4—The spring on the left at the bend of the walk is Infant Geyser. It is connected underground with the springs directly ahead to the left. The large mound on the hillside to the right is Cone Geyser. It was stimulated into eruptive activity by the earthquake of August 17, 1959. This was the first it had been known to play as a geyser since the Park was discovered.

STATION 5—Giantess group. This group comprises four springs, Vault, Teakettle, Giantess and Infant. All are true geysers except the Teakettle. The Teakettle is the spring with the raised crater near the walk on the right. Giantess is the largest of the group and is directly back of Vault, which is the oblong spring near the walk.

The Giantess is one of the major geysers in the Park. Most of its eruptions are more powerful than Old Faithful's. Its activity is infrequent and unpredictable. The duration of an eruption is usually about 24 hours. The earthquake of August 17, 1959, triggered an eruption which lasted for over 100 hours. Its crater is 72 feet deep. When the Giantess erupts the craters of Vault and Teakettle empty.

Since the earthquake, the Vault has been much more active than before. Some days the eruptions recur about hourly. They last for 4 minutes and are about 15 feet high.

PENCILED OR SCRATCHED NAMES ON THE FORMATIONS ARE SYMBOLS OF DISREPUTE, NOT DISTINCTION.

The water jetting out from under the ledge, ahead and to the right, is from Pump Geyser. It is not a true geyser due to the spouting being continuous. The reddish color of the geyserite about Pump's vent, as well as in the bowl of the Sponge, is due to an iron compound. This is not true of the shades of yellow, brown and red that you see in the drainage channels leading away from the hot springs. The coloring there, as in other places in the geyser basins, is due to primitive plants known as algae. The temperature of the water is an important factor in determining color, or shade of color.

STATION 6 — As a geyser the Sponge would not seem to merit much consideration, though it sits at the top of an auspicious looking cone. On the other hand, by carefully observing it for a few minutes you will be able to see those characteristics which serve to distinguish geysers from other hot springs. Hot springs are common, but true geysers are rarely found in nature.

In order to meet with the accepted definition of a geyser the spring must be intermittent in its activity. That is, it must have periods of repose between the boiling periods, these latter periods representing the eruptions. Following the boiling there is a lowering of water in the crater. The water then starts rising (the time being different for every geyser), which rise will be followed by an eruption. This cycle in the Sponge is very short, occurring about every 60 to 75 seconds.

STATION 7 — Note the projecting ledges of geyserite about Doublet Pool. Never approach too near the edge of such a spring. There are a number of similar springs in the geyser basins. One is known as Skeleton Pool. In the bottom of its crater are bones of animals that approached too near the edge.

The shape or form the mineral assumes about a hot spring is largely governed by the state of the water. If the water level is near constant and not characterized by boiling, as is the case in Doublet, the mineral will grow like a sheet of ice out over the pool. Boiling springs build cones, the more frequent the boiling the more accentuated the growth.

STATION 8 — This spring was named Beach because of the fancied resemblance of the geyserite about the spring to a beach. Occasionally it will erupt from 1 to 3 feet in height.

The small colored crater 25 feet east of the walk, on your right as you approach this station, is Aurum Geyser. Some years it is active, during others it is dormant. It was stimulated into eruptive activity by the earthquake. It erupts to a height of about 12 feet.

Take the left walk. The walk entering the woods is the nature trail. It goes to Solitary Geyser and Observation Point. Observation Point is the rock ledge on your right that you can see jutting from the forest.

Pendant Spring is 100 feet beyond this junction, and to the right. It is 8 feet from the walk. Note the algal colored drainage channels.

STATION 9 — Ear Spring was formerly called the Devil's Ear. Many of the springs have been named because of their fancied resemblance to other things.

The temperature of the water in this spring ranges from 1 to 3 degrees above boiling, making it superheated. The boiling temperature at this elevation (7366 feet) is 199° F.

LEAVE NOTHING AS A REMINDER TO OTHERS THAT YOU WERE HERE.

STATION 10 — This is the Lion Group. The Lion is the largest geyser on the mound. Big Cub is back of Lion and on the extreme right. The Lioness is next to Big Cub. Little Cub is on the left side of the mound. The two springs at the base of the mound, and near the walk on the right of Lion, are the Goggles. Their shape suggested the name.

Lion Geyser is characterized by having active periods which sometimes will last for a day or two. During an active period the eruptions occur about every 60 to 120 minutes; they last about 4 minutes; the height is near 60 feet. Before eruptions there will be explosive gushes of steam, the sound resembling the roar of a lion.

When active the Lioness and Big Cub usually erupt together. They are active infrequently. When they are in an eruptive cycle Lion is dormant. Little Cub plays several times each day. The four springs on the mound are connected underground.

The large spring at the bend of the walk just ahead from the Lion, and on the right, is Heart Spring. Its temperature is usually a degree or two above boiling.

STATION 11—The spring on top of this large mound is Arrowhead Spring. It was stimulated into geyser activity by the earthquake. There is no record of any previous eruptive activity. After several weeks of activity it lapsed into dormancy.

One hundred feet ahead, and on the left, you will see a small crater with pieces of geyserite strewn about it. A steam explosion opened this crater on the night of the earthquake.

The large spring 7 feet from the right of the walk is Depression Geyser. It is cyclic; that is, some seasons it periodically erupts, other seasons it is dormant.

STATION 12—This geyser was named Beehive because of its resemblance to the old-fashioned beehive. Like Depression Geyser, it is cyclic. Since the earthquake it has been playing from 2 to 5 times each week, It is a very powerful geyser. Some of its eruptions are near 200 feet in height. They last from 5 to 8 minutes. It has a steam phase following the water phase, during which the steam escapes under terrific pressure.

STATION 13—Plume Geyser, 18 feet to the left of the walk, is cyclic. It has been in an active cycle since the 1940 season. It was quite regular before the earthquake, playing every 60 to 70 minutes. The quake shortened its interval to about 45 minutes. The springs above Plume had their origin the night of the quake. When water from them flows into Plume's crater its interval is lengthened. The water plays out at an angle in the direction of Beehive to a height of about 25 feet.

STATION 14—There are 3 vents in Anemone Geyser. Before the earthquake there was a chain action. The middle vent played first to be followed by the vent near the walk.

The eruptions occurred about every 10 minutes. Since the quake the vent nearest to the walk has played almost constantly.

Beyond Anemone, and on the right, is a geyser known as the Little Squirt. It was stimulated into activity by the earthquake and has played constantly since.

On the embankment of the Firehole River in the direction of Old Faithful, is the Cascade Geyser. The earthquake initiated an eruption cycle. The last reported activity was in 1903.

For further information about the hot springs on Geyser Hill, or other springs in the geyser basins, inquire of the man in uniform or at the information desk at the Visitor Center. Here you will also be able to obtain literature on Yellowstone Park.

The publication of this folder for your convenience has been accomplished by the Park Superintendent and interested employees of Yellowstone National Park.

If you have no further use for the folder, kindly place it in the box provided for its disposition. Folders in good condition may be used by others who traverse this route.

Sincerely yours,

The Yellowstone Interpretive Staff

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UNITED STATES
DEPARTMENT OF THE INTERIOR
Fred A. Seaton, Secretary

NATIONAL PARK SERVICE
Conrad L. Wirth, Director